



Figure S1. Grain yield of different standard rice varieties in 2018. 99Z, C7, GLA4, LCZ1, LJXTHG, SAR, SCL, YZZD, ZC9, ZZN, AN, BEN, CPY, DC, HLD, IR, LH1, LSN, PAA64S, TAX, YL, BDM, DAE, GHG, HEU, HKLLQ, HLHM, HXJD, KOS, PDG, TSU, XQZA, ZYN, ASA, DAS, HE18, XQZB, and YUM represent 99Z-239, Chuang 7, Guangluai 4, Luchuangzao 1, Lijiangxintuanheiguo, Sariqueen, Sanlicun, Yuanzizhandao, Zhechang 9, Zixiangnuo, Ainuo, Beniroman, CPY 2199, Daochi, Hanlundao, IR 30, Lunhui 1, Lishuino, Peiai64S, Aitexuan, Yuli, Baimangdao, Daelip 1, Guihuahuang, Heuknambyeo, Hongkelaolaiqing, Heilongheimi, Huaxijiandao, Koshihikari, Pandiegu, Tsukushiakamochi, Xieqingzao A, Zhuyunnuo, Asamurasaki, Dasanbyeo, Hejiang 18, Xieqingzao B, and Yumetoiro, respectively.

Table S1. Variety, origin, and type of different standard rice varieties.

No.	Variety	Origin	Type	No.	Variety	Origin	Type
1	99Z-239	China	<i>japonica</i>	20	Aitexuan	China	<i>japonica</i>
2	Chuang 7	China	<i>indica</i>	21	Yuli	Japan	<i>japonica</i>
3	Guangluai 4	China	<i>indica</i>	22	Baimangdao	China	<i>japonica</i>
4	Luchuangzao 1	China	<i>indica</i>	23	Daelip 1	Korea	<i>japonica</i>
5	Lijiangxintu-anheiguo	China	<i>japonica</i>	24	Guihuahuang	China	<i>japonica</i>
6	Sariqueen	Japan	<i>japonica</i>	25	Heuknambyeo	Korea	<i>japonica</i>
7	Sanlicun	China	<i>japonica</i>	26	Hongkelaolaiqing	China	<i>japonica</i>
8	Yuanzizhandao	China	<i>japonica</i>	27	Heilongheimi	China	<i>japonica</i>
9	Zhechang 9	China	<i>indica</i>	28	Huaxijiandao	China	<i>japonica</i>
10	Zixiangnuo	China	<i>japonica</i>	29	Koshihikari	Japan	<i>japonica</i>
11	Ainuo	China	<i>indica</i>	30	Pandiegu	China	<i>indica</i>
12	Beniroman	Japan	<i>japonica</i>	31	Tsukushiakamo-chi	Japan	<i>japonica</i>
13	CPY 2199	Russia	<i>japonica</i>	32	Xieqingzao A	China	<i>indica</i>
14	Daochi	China	<i>japonica</i>	33	Zhuyunnuo	China	<i>indica</i>
15	Hanlundao	China	<i>japonica</i>	34	Asamurasaki	Japan	<i>japonica</i>
16	IR 30	IRRI	<i>indica</i>	35	Dasanbyeo	Korea	<i>indica</i>
17	Lunhui 1	China	<i>indica</i>	36	Hejiang 18	China	<i>japonica</i>
18	Lishuinuo	China	<i>indica</i>	37	Xieqingzao B	China	<i>indica</i>
19	Peiai64S	China	<i>indica</i>	38	Yumetoiro	Japan	<i>indica</i>

Table S2. Variety of different distinctness, uniformity, and stability (DUS) test rice varieties.

No.	Variety	No.	Variety	No.	Variety	No.	Variety
1	Hanhui 3	48	Chunyou 17	95	Zheyong 39	142	Huhan19
2	Lihui 944	49	Chunyou 137	96	Zheyong 77	143	Hanyou 723
3	Hanhui 786	50	Songxiangzaojing	97	Huashengyou 1106	144	Hanyou 710
4	Hanyou 386	51	Huxiangjing 216	98	Qianyou 9392	145	Hanyou 73
5	Hanliangyou 8	52	Jinnongjing 4	99	Liangyou 58	146	Huanghuazha
6	Hanliangyou 68	53	Huxiangjing 106	100	Huazhongyou 9416	147	Zhedao 131
7	Huhan 1529	54	C982	101	HuaZheyong 9441	148	Quanliangyouyuemiao
8	Huijingsimiao	55	Quanlijing 3	102	HuaLiangyou 339	149	Longnuo 3
9	Hanxiangyusi	56	Huazheyong 2473	103	HuaZheyong 5002	150	Quanlijing M4
10	Jinxiangsizhan	57	Huyanyou 1017	104	Huazhongyou 9461	151	Liangyou M7
11	R9803	58	Hanyou 247	105	Huazhongyou 9419	152	Yiliangyou 8822
12	Huhan 1514	59	Yixiangjingzhan	106	Zheheyong 127	153	Quanlijing M6
13	Bayuexiang	60	Huhan 1515	107	Huazhejing 2050	154	Huxiangyou M6
14	Hanliangyou 808	61	Huhan 1528	108	Huazheyong 5006	155	Hanxiangyou 998
15	Fenghanyou 16	62	Huiliangyouxiangjingsimiao	109	Liangyou 513	156	Lihuasinuo
16	Hanyou 76	63	Hanyou 969	110	Hanyou 1594	157	Huijing 1088
17	Hanyou 718	64	Hu 34	111	Zhejingyou 906	158	Huimiao 1
18	Hanyou 717	65	Songxiangjing 1855	112	Huazheyong 524	159	Huimiao 2

19	Fenghanyou 6	66	Hanliangyou 8209	113	Zheheyong 265	160	Yinuo 135
20	Hanliangyou 1017	67	Hualiangyou 125	114	Huazheyong 9443	161	Taoyouyasizhan
21	Hanliangyou 855	68	Songxiangjing 1855	115	Jiayou 8108	162	Hanyou 83
22	Hanxiangyoujin-zhan	69	Qiuyou 23	116	Zheheyong 165	163	Jiejing 115
23	Zhekeyou 4	70	Huruan 1212	117	Zhejingyou 1409	164	Lihuasimiao
24	Jiachengyou 817	71	Xiushui 519	118	Zhongzheyong 2909	165	Fengminsimiao
25	Zhehuyou 2007	72	Songzaoxiang 1	119	Huazheyong 9451	166	Hanyou 536
26	Chunchengyou 887	73	Huhan 5B	120	Chunyou 627	167	Hanyou 761
27	Zhongkenruan-xiang 1	74	Hanyou 211	121	Zhiliangyou 6	168	Daofeng 69
28	Xiushuixiang 1	75	Hanyou 73	122	Hanliangyou 8904	169	Hanyou 758
29	Chunjiang 190	76	Liangyou 778	123	Huazhongyou 9413	170	HuaZheyong 6006
30	Tianweixiangjing	77	Zhezao 219	124	Yyou 9367	171	Jieyou 326
31	Lihui 939	78	Zhongzao 39	125	Huazheyong 898	172	Qinyou 788
32	Hanhui 56	79	Huxiangjing 2137	126	Zhedajingyou 138	173	Xinhexiang 2
33	Hanhui 50	80	Guangmingjing 7	127	asuiliangyousizhan	174	Xiushui 134
34	Lihui 696	81	Huhan 1518	128	Jia 78	175	Jincui 8
35	Hanhui 103	82	Huhan 1527	129	Mingliangyou 233	176	Tailiangyou 520
36	WZR7	83	Huhan 3002	130	Jingliangyouxiang 207	177	Guangxiangjin-zhan
37	Hanhui 984	84	Huhanxianggruan 61	131	Jingliangyou 91zhan	178	Qingxiangyusi
38	Chunyou 41	85	Hanliangyou 828	132	Mingliangyouzhan 1	179	Hanyou581
39	Zhejingyou 1809	86	Hanhui 366	133	Chouyou 205	180	Hefengsimiao
40	Chunjiang 195	87	Hanhui 508	134	Huihuayezhan-simiao	181	Zijinnuo 8
41	Chunjiang 191	88	Hanhui 303	135	Huixiangyou 82	182	R5384
42	Songzaoxiang 3	89	Hudaoxianggruan 217	136	Guixiangyou 72	183	Kentesimiao
43	ZH19-22	90	Nanjing 46	137	Shenhan 6A	184	K3287
44	Hu 68	91	Huzi 1	138	Guangtaiyou 101	185	Chunchengyou 117
45	Hongyou 36	92	Huhong 1	139	Fujienuo 698		
46	Nuo 342	93	Hudao RS121	140	Houhan 929		
47	Guiyuheinu	94	Hudao RS123	141	Huhan 1908		